



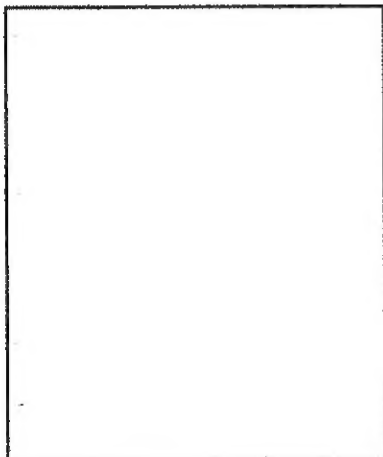
SO (1/2)

INCLUDES (CN)

# "...A SENTENCE FROM YOU ..."

Here I will write a sentence that defines your work or your thoughts.  
This can be taken from your writings. Or from the interview..

SEVERO ORNSTEIN. BDN.  
NOM - Professor UCLA. Computer Science Department.



12-10-2003 / STP  
Interviewed on November 10, 2003 in Los Angeles (CA)

- Pennsylvania (Philadelphia)
- Bachelor → Harvard, and Geophysics.

Links related to you

## Do you remember when you had your first contact with a computer?

Hard Designer.  
50K leased lines.

I remember very 1953 → Geophysics. (Gulf Company) in Pittsburgh.  
he was working in MIT, became friends and he showed me his work.  
Introduced. Was a very fastest ~~was~~ WHIR-WIND. (Times of ENIAC)  
In a ~~fast~~ native language.

## What was your first contact/experience with Internet or ARPANET?

And When RFP from ARPA (BDN) FRANK HART.

When the RFP arrived to BDN (1968) I went there at 1968 / 1975 moved to Xerox (a lot of people)  
and look sure we can build it. Led by Frank Hart.  
(from Westinghouse). We all knew Larry Roberts in Lenbrook in MIT. We worked  
very hard few months to prepare the proposal. We worked very hard.

## In your opinion, what are the key characteristics of Internet?

— BDN was in Boston. Architectural acoustics 3 professors and Licklider

I said that I was very concerned that it was going to be very big  
W3.MOVEON.ORG (Berkeley). That's exactly.

- Provides a way to people to communicate. Never could do before. -

## What do you consider the most important milestones in the development of the network?

- 1970-72 IMP → SUBNET only the connection bet IMP not the hosts.
- 1974-75 develop E-Mail. Big adapting OS (Ray Tomlinson) and ☐ developed.



- The develop of web crawlers -- with Tim Berners-Lee.

\$0 (2/5)

### How did you contribute to the development of the Internet?

How it contributed to the development of the Network?

Very early days. Building the IMPs and making all the subnet work.

### Who are some key people in the development of Internet, leaders or trendsetters?

Please list here contributors who have a minimum of 5 years of Internet experience and who have made important contributions from your point of view. They don't have to be very famous people. In the past, who were the leaders?

- To [NAME] for his/her contributions to...
- To

WEST CLARK (very much that)  
→ FRANK HART  
→ DAVID WALDEN (good memory)  
WILL CROWTHER (superb hacker)

### Two anecdotal situations

Relate here some unknown / underreported situations you've lived - in connection with your internet experiences.

→ Testing of lines. The TIP was calling periodically, calling to a particular net. There was an IMP, (we were a node of the net).

### What do you think about the future of Internet?

Two or three key aspects of the future.

stop shaking and worked (see the book).

My interest are in the political area. As a state control of people.

### Do you see any technological trends?

I've been

Higher and higher speed. Then you can do things you can imagine.

Is skeptical about AI.

Both a manager and a researcher.

14033 - 1517-5 Software  
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- Reading: Computing in the Middle Ages (ORNSTEIN).
- The Dream Machine (one of the best). First-book.com.

More Wizards stay up late (ARPANET history). Quite good.

We didn't paid much attention to Leo Kleinrock's work he was a mathematician and we were engineers.

A machine code programmer. In few instructions. "Dungeons & Dragons" wrote in a teletype. He's very Very focus, very nerd.

→ Larry Roberts (extremely bright) the most important. In his view.  
- Bob Taylor (same in a view).  
- Bob Kahn (without computer He was learning a lot. Tends to take more credit.)  
- Steven Crocker.

Licklider. (very influential).

Vint Cerf (not as the father).

Very good instincts. (like a general) not to fight but. He's very arrogant. He never wrote papers.

## RESUME

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### Personal

Birthdate Oct. 13, 1930  
Married, Four children

### Education

1951 A.B. (Cum Laude) Harvard University  
1952-53 Graduate studies in Geophysics and Mathematics  
at U.C. Berkeley and Harvard University

### Experience

1983 - present: Computer Professionals for Social Responsibility (CPSR)  
Founder and Chairman of the Board.

Retired from research in 1983 to work on CPSR. Have spoken throughout the U.S. and given invited lectures in Italy (fall 1985) and Canada (spring 1986). Editor of column "Computing and the Citizen" in *Abacus* magazine (quarterly).

1976 - 1983: Computer Science Laboratory, Xerox PARC, Palo Alto, CA

Assorted managerial responsibilities including lab. wide salary review committee, overseeing technical support staff, etc.

Associate Director, *Dorado* Project (a high-performance, ECL, personal computer with large virtual memory, cache, etc.)

Manager of Ethernet-based Voice Communication project

Designer of the *Dorado* Instruction Fetch Unit and terminal handling hardware including raster scan displays

Developed a computer-based music score editing system

Designed hardware for a high speed raster printer.

1967 - 1976: Bolt, Beranek, and Newman, Cambridge, Mass.

Assistant Director of Arpanet Project

One of Arpanet sub-net key system designers: designed all initial hardware: designed advanced terminal handling hardware

Headed team that designed and built the *Pluribus*, an experimental, high-speed, minicomputer multiprocessor.

Substantial managerial responsibilities.

1969 - 1971: Harvard University, Cambridge, Mass.

Established and taught seminars and courses in computer architecture, hardware design, and introductory machine-language programming.

1964 - 1967: Washington University Computer Systems Lab., St Louis, Mo.

Continued earlier work on LINC, including applications with various medical researchers (Neurology, Psychology, Cardio-vascular, etc.)

Taught courses in Computer Design

Developed Macromodules for re-structurable computer design based on asynchronous circuits

Investigated anomolous behavior of synchronizers

1965: Northeastern University, Boston, Mass.

Taught course in computer design and machine language programming

1963 - 1964: MIT Center for Computer Technology for Research in Biomedical Sciences

Heavily involved in development, design, and production of the LINC, one of the world's first minicomputers - including display and analog inputs. DEC tape units, a later industry standard, grew out of some of this work.

1955 - 1963: MIT Lincoln Lab., Lexington, Mass

Programming and systems design in inter-computer communication for the SAGE Air Defense system. Also radar tracking of missiles re-entering the atmosphere.

Underwater sound simulation studies for submarine detection.

Various hardware design projects.

Simulation studies of FX-1, a "thin-film" memory computer.

1953 - 1955: Gulf Research and Development Co. Pittsburgh, Pa.

Geophysical analysis and interpretation of seismic data for oil exploration

#### Other Data

Workshops on Synchronizing problems and Educational kits (1969-72)

Lectures at Infotech in Amsterdam and London (1970)

Headed delegation of U.S. computer scientists to People's Republic of China (1972)

Lectures in Santiago, Chile and Pisa, Italy (1975)

Lectures in Paris, Zurich, and Cambridge, Eng. (1980)

Lectures at numerous universities in U.S. and Canada (1970 - present)

Lectures in Pisa, Castiglione, and Rome, Italy (1985)

## Papers and Publications:

"A Macromodular Approach to Computer Design: A Preliminary Report" (with W.A. Clark and M.J. Stucki), Washington Univ. (St. Louis) Computer Research Lab. Tech. Report No. TR1 (February 1966).

"A Functional Description of Macromodules" (with M.J. Stucki and W.A. Clark) *AFIPS Conference Proceedings* 30 337-355 (Spring 1967).

"Logic Design of Macromodules" (with M.J. Stucki and W.A. Clark), *AFIPS Conference Proceedings* 30 357-363 (Spring 1967).

The CHASM: A Macromodular Computer for Analyzing Neuron Models" (with C.E. Molnar and A. Anne), *AFIPS Conference Proceedings* 30 393-401 (Spring 1976).

"The Interface Message Processor for the ARPA Computer Network" (with F.E. Heart, R.E. Kahn, W.R. Crowther, and D.C. Walden), *AFIPS Conference Proceedings* 36 551-567 (Spring 1970).

"Beware the Synchronizer" (with T.J. Chaney and W.M. Littlefield), *Compcon* (1972).

"The Terminal IMP for the ARPA Computer Network" (with F.E. Heart, W.R. Crowther, H.K. Rising, S.B. Russell, and A. Michel), *AFIPS Conference Proceedings* 40 243-254 (Spring 1972).

"A System for Broadcast Communication: Reservation-ALOHA" (with W.R. Crowther, R.D. Rettberg, D.C. Walden, and F.E. Heart), *Proceedings of the Sixth Hawaii International Conference on System Sciences* 371-374 (January 1973).

"A New Minicomputer/Multiprocessor for the ARPA Network" (with F.E. Heart, W.R. Crowther, and W.B. Barker), *AFIPS Conference Proceedings* 42 529-537 (June 1973); also in *Selected Papers: International Advanced Study Institute, Computer Communication Networks*, edited by R.L. Grimsdale and F.F. Kuo, University of Sussex, Brighton, England, (September 1973).

"The BBN Multiprocessor" (with W.B. Barker, R.D. Bressler, W.R. Crowther, F.E. Heart, M.F. Kraley, A. Michel, and M. J. Thrope), *Proceedings of the Seventh Annual Hawaii International Conference on System Sciences, Computer Nets Supplement* 92-95 (January 1974).

"Computing in China: A Travel Report" (with T.E. Cheatham, W.A. Clark, A.W. Holt, A.J. Perlis, and H.A. Simon), *Science* 182 134-140 (October 1973).

"A Network Oriented Multiprocessor Front-End Handling Many Hosts and Hundreds of Terminals" (with W.F. Mann and M.F. Kraley), *Proceedings, National Computer Conference* 533-540 (1976).

"An Instruction Fetch Unit for a High Performance Personal Computer" (with B.W. Lampson and G. McDaniel) *IEEE Transactions on Computers*, Vol. C-33, No. 8, 712-730, (August 1984).

"Mockingbird: A Composer's Amanuensis" (with J.T. Maxwell III) *Byte Magazine* 9-1 384-401 (January 1984).

"Adding Voice to an Office Computer Network" (with D.C. Swinehart and L.C. Stewart), *Proceedings GlobeCom* 83 1 392-398 (November 1983).

"Strategic Computing", (with B.C. Smith and L.A. Suchman), *Bulletin of the Atomic Scientists* 40-10 (December 1984).

"Strategic Computing: An Assessment", (with B.C. Smith and L.A. Suchman), *Communications of the ACM* 28-2 (February 1985).

"Reliability and Responsibility", (with L.A. Suchman), *Abacus* 3-1 57-68 (Fall 1985).